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09/937,986	01/02/2002	Martin Griesser	AP9610	8850

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BLOOMFIELD HILLS, MI 48304-0610

EXAMINER

BROADHEAD, BRIAN J

ART UNIT	PAPER NUMBER
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3661

DATE MAILED: 02/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/937,986

Applicant(s)

GRIESSER, MARTIN

Examiner

Brian J. Broadhead

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The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 25,27-36 and 38-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 25,27-36 and 38-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 25, 27-30, 32-34, and 36, 38-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Hrovat et al., 5696681.

3. As per claims 25, 30, 36, and 38, Hrovat et al. disclose determining a loss of tire pressure by monitoring at least one of the vehicle parameters, vehicle speed, longitudinal acceleration, yaw rate, transverse acceleration, steering angle, curve characteristics quantity, wheel acceleration, wheel slip, wheel slip gradient, tire torsion and modifying the response of one or more vehicle control systems based on the results of the determining step wherein the modifying step further includes modifying the response of a vehicle brake control system by changing a control algorithm for the brake system in dependence on the loss in tire pressure on lines 35-53, on column 1, and lines 30-46, on column 2.

4. As per claims 27, 28, and 29, Hrovat et al. further discloses changing a wheel specific nominal value for the wheel that has sustained a pressure loss, a wheel that has not lost wheel pressure, and all the wheels when the loss in pressure is unknown on lines 1-52, on column 5.

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5. As per claims 32, 33, 34, and 39, Hrovat et al. disclose determining a test quantity from an input quantity for the purpose of pressure loss detection, wherein the input quantity is modified according to the driving dynamics variable on lines 55-58, on column 3; and determining a loss of tire pressure remains undone when the vehicle parameters lie outside a predetermined range of parameter values on lines 58-64, on column 3.

6. As per claims 40, 41 and 42, Hrovat et al. disclose wherein the determining device operates with respect to an input quantity, and wherein the modification device modifies the input quantity according to the driving dynamics variable on lines 1-10, on column 3.

7. As per claim 43, Hrovat et al. disclose the modification device leaves the pressure loss detection undone when the driving dynamics variable lies outside a predetermined range of values on lines 58-62, on column 3.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 25, 27-30, and 32-36, 38-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al., 5760682, in view of Hrovat et al., 5696681.

10. As per claims 25, 30, 36, and 38, Liu et al. disclose determining a loss of tire pressure by monitoring at least one of the vehicle parameters, vehicle speed,

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longitudinal acceleration, yaw rate, transverse acceleration, steering angle, curve characteristics quantity, wheel acceleration, wheel slip, wheel slip gradient, tire torsion and modifying the response of one or more vehicle control systems based on the results of the determining step on lines 63-66, on column 1. Liu et al. do not disclose wherein the modifying step further includes modifying the response of a vehicle brake control system by changing a control algorithm for the brake system in dependence on the loss in tire pressure. Hrovat et al. teach wherein the modifying step further includes modifying the response of a vehicle brake control system by changing a control algorithm for the brake system in dependence on the loss in tire pressure on lines 20-40, on column 3. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the brake control of Hrovat et al. in the invention of Liu et al. because such modification would not only warn a driver of a tire deflation but also maintain the vehicle trajectory during a sudden tire rupture as stated on lines 35-38, on column 1, of Hrovat et al.

11. As per claims 27, 28, and 29, Liu et al. further discloses changing a wheel specific nominal value for the wheel that has sustained a pressure loss, a wheel that has not lost wheel pressure, and all the wheels when the loss in pressure is unknown on lines 1-5, on column 4.

12. As per claims 32, 33, 34, and 39, Liu et al. disclose determining a test quantity from an input quantity for the purpose of pressure loss detection, wherein the input quantity is modified according to the driving dynamics variable on lines 18-35, on column 4; and determining a loss of tire pressure remains undone when the vehicle

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parameters lie outside a predetermined range of parameter values on lines 18-35, on column 4.

13. As per claims 35 and 44, Liu et al. disclose determining a modification quantity during operation of the vehicle and storing said modification quantity in a non-volatile fashion on lines 1-10, on column 5.

14. As per claims 40, 41 and 42, Liu et al. disclose wherein the determining device operates with respect to an input quantity, and wherein the modification device modifies the input quantity according to the driving dynamics variable on lines 1-5, on column 4.

15. As per claim 43, Liu et al. disclose the modification device leaves the pressure loss detection undone when the driving dynamics variable lies outside a predetermined range of values on lines 20-35, on column 4.

16. Claims 25, 27-31, and 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto, 5546308, in view of Hrovat et al., 5696681.

17. As per claims 25, 30, 31, 36, and 38, Yamamoto discloses determining a loss of tire pressure by monitoring at least one of the vehicle parameters, vehicle speed, longitudinal acceleration, yaw rate, transverse acceleration, steering angle, curve characteristics quantity, wheel acceleration, wheel slip, wheel slip gradient, tire torsion and modifying the response of one or more vehicle control systems based on the results of the determining step on lines 35-40, on column 5; and limiting the maximum speed of the vehicle by engine intervention when pressure loss is detected on lines 35-40, on column 5. Yamamoto does not disclose wherein the modifying step further includes

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modifying the response of a vehicle brake control system by changing a control algorithm for the brake system in dependence on the loss in tire pressure. Hrovat et al. teach wherein the modifying step further includes modifying the response of a vehicle brake control system by changing a control algorithm for the brake system in dependence on the loss in tire pressure on lines 20-40, on column 3. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the brake control of Hrovat et al. in the invention of Yamamoto because such modification would not only prevent the speed of the vehicle from being increased but also maintain the vehicle trajectory during a sudden tire rupture as stated on lines 35-38, on column 1, of Hrovat et al.

18. As per claims 27, 28, and 29, Yamamoto further discloses changing a wheel specific nominal value for the wheel that has sustained a pressure loss, a wheel that has not lost wheel pressure, and all the wheels when the loss in pressure is unknown on lines 35-50, on column 6.

### ***Response to Arguments***

19. Applicant's arguments with respect to claims 25, 37-36, and 38-44 have been considered but are moot in view of the new ground(s) of rejection. Hrovat et al. more explicitly discloses the brake controller use, in response to a drop in tire pressure.

### ***Conclusion***

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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21. Tomita, 5948035, discloses method and apparatus for predicting minimum stopping distance required to brake running vehicle.

22. Sawada et al., 6064931, disclose control-apparatus for vehicle.

23. Irie et al., 6101434, disclose behavior control device of vehicle based upon double checking of yaw rate deviation.


24. Nakajima, 6064936, disclose tire air pressure reduction detection apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Broadhead whose telephone number is 703-308-9033. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William A. Cuchlinski can be reached on 703-308-3873. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

BJB

  
WILLIAM A. CUCHLINSKI, JR.  
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